A Report in Support of

A PROPOSAL FOR AN INTEROPERABLE LAND INFORMATION SYSTEM FOR THE STATE OF NEBRASKA

Fact Investigation and Stakeholder Interview Summary

Prepared for the

NEBRASKA GIS STEERING COMMITTEE

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Fact Investigation and Stakeholder Interview Summary

A. Introduction

1. Background

This report documents a portion of the results of the fact investigation phase of a project intended to lead to the development of an interoperable land information system for the State of Nebraska. Specifically, this summarizes the factual results of key stakeholders' interviews, workshops, and other background research conducted in support of the program development. This effort is part of the Nebraska Land Records Modernization Study. This study has had four discreet phases:

- A review of leading institutional models for land records modernization. This effort has provided valuable information to this process by identifying both "best practices" and "lessons learned" from a representative sample of states who have undertaken similar programs;
- An assessment of the current situation, including the status and need for land records modernization. This assessment included both a comprehensive survey of local governments and interviews with key stakeholders at the state level;
- The development of a conceptual design and vision for a modernization program; and,
- The creation of a plan for the next steps toward the development of a land information program for Nebraska.

2. Purpose

The purpose of this report and the underlying research was to establish, in part, a factual context for program development. Areas of inquiry included: Business processes and opportunities; available data and data needs; available technology infrastructure; and organizational and political interactions, including resource needs. In part, this effort was intended be to establish a baseline inventory of circumstances within Nebraska that would affect the development of a land information program.

3. Activities

Overall, the fact investigation included a detailed and comprehensive survey of all Nebraska counties and the largest municipalities[1], interviews with key state level stakeholders, and nominal group process workshops with stakeholders. This report highlights the facts gathered from the stakeholder interviews, workshops, and informal conversations.

Stakeholder interviews were conducted over a period of several months. Multiple meetings were conducted with some interviewees. Those interviewed include the following:

James Brown and Staff	Nebraska State Surveyor and Committee Chair
Lash Chaffin	League of Nebraska Municipalities
Larry Dix	Nebraska Association of County Officers
John Erickson	Governor's Policy Research Office
Cathy Lang and Staff	Nebraska Property Tax Administrator
John Miyoshi	Lower Platte North NRD, representing Natural Resource Districts
Steve Shafer	Chief Information Officer
Cliff Welsh	Nebraska Association of County Officers
Larry Zink	GIS Steering Committee Coordinator

Larry, I did not have the names of the two Senators with me. I will add them. Did we talk to anyone else?

B. Summary Results

The following summarizes the key findings from the fact investigation exercises.

1. Demographics

The State of Nebraska is a study in contrasts from a demographic perspective. There is tremendous variation across the State in terms of population density and socio-economic characteristics. Some areas of the State are experiencing population growth with attendant development pressures. In contrast, a large portion of the State has flat or declining population growth. To be successful, a land information program will have to address the needs of both densely populated urban centers and small, sparsely populated rural areas.

Notwithstanding the differences, both urban and rural areas have needs for modern land information systems. While growth may be the driver for modernization in certain areas, no part of the State is exempt from the need to support environmental and conservation planning and protection. All areas have needs to prepare for and respond to homeland security issues. In urban environments, homeland security needs center on protecting the populace and critical infrastructure. Rural areas have similar concerns, but also have the added need for protection of the food supply—a significant concern with far reaching impact.

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[1] The results of the *Nebraska Land Records Modernization Survey 2003* were reported separately. Please see, *A Proposal for an Interoperable Land Information System for the State of Nebraska Program Conceptual Design*.

2. Programmatic Challenges

a. Economic

The demographics of the State present unique challenges in order to make a land information program relevant to all possible participants. For example, while rural areas may have less demanding business needs and requirements for data accuracy and resolution, they have considerably less and, probably, proportionally fewer resources to support system development and maintenance. These limitations include both financial and personnel resources.

Notwithstanding the more modest business needs and requirements, the investment in land information systems in rural areas will be significant. Naturally, development costs are incurred upfront and the benefits to be returned will not be realized until some time later. It is also clear that whatever may be developed for the State program, it will not cover all the investment or the costs of operating and maintaining these systems over time. As a result, local governments will have to allocate funding for development, system maintenance, and operations. Part of the challenge will be to create appropriate and sizeable enough incentives to motivate local officials to initially participate in, and, ultimately, sustain their own land information programs.

b. Personnel Resources

Personnel issues have also been identified by many stakeholders as challenging. The challenges here are two-fold and potentially affect both urban and rural communities. The first challenge is capacity. Many communities are in the throes of tight fiscal circumstances. Staff members are called upon to meet specific governmental missions and mandates. In most jurisdictions, there is not enough staff to meet all the demands of governmental business, let alone to undertake new initiatives. This is a short-term constraint because, in the long run, it is expected that modern land information systems will make staff more productive and efficient. The decision point for local decision makers will be when and how to address capacity. Solutions may include: Outsourcing; supplementing existing staff permanently or on a short term basis; or redirecting staff resources from other activities.

The second personnel issue relates to technical competence. The systems development exercise will involve a variety of technical knowledge, skills, and abilities—even if the staff's role is limited to being responsible for project management. For example, the process of data acquisition may be complicated. The acquiring agency must have enough technical expertise to propose specifications that will ensure that the end products will meet their business needs and budgets. Just as important, the agency must be able to evaluate technical specifications and methodologies that may be proposed by private firms.

Other technical complexities include data modeling and database design, systems design and interoperability, and integration of legacy business applications. The need for technical competence does not end with systems implementation. System users will require education on concepts and training in the specifics of applications. The general sense from the stakeholder interviews was that, with few exceptions, more technical capability will need to be brought to bear on the program. Again, this capability may come from training existing staff, outsourcing, or hiring temporary staff.

c. Regionalization

Because of these constraints, many stakeholders strongly urged some form of regionalization of the program across multiple counties in order to pool and spread the costs and technical talent over wider geographic regions and resource bases. The primary challenge in regionalizing aspects of the program is structural.

Ideally, the State could establish regional service centers that would assist local agencies. These services could provide technical as well as organizational assistance, training, and education. The establishment of regional service centers may be difficult in the tight fiscal times confronting the State.

Alternatives to a fixed structure would be to create policy mechanisms that allow for the formation of ad hoc consortia or groups to work together. These ad hoc consortia could be organized around a variety of existing institutions such as Natural Resource Districts, the University Extension, the State Surveyors Office, the Nebraska Counties Association, or the Nebraska League of Municipalities.

This flexible structure has its limitations as well. Because the formation of these groups would have to be voluntary, there will be no assurance that the all geographic areas would be covered. Without complete coverage, the needs of all participants across the State may not be met. This form of regionalization will be administratively difficult to manage in part because there is no clear leadership and responsibilities with any organizing group. For example, it was suggested that the Natural Resource Districts may serve as an appropriate institutional mechanism. It was recognized however that not all of the agencies have the capability and resources, let alone the interest in taking on this role.

d. Statewide Extent and Scope

The demographic, technical, and resource disparity across regions presents other challenges. At the onset of this project, most stakeholders envisioned a program where systems and data were statewide in extent and scope. To attain that vision technically, will require that the State adopt systems that are:

- Capable of integrating a mix of data resolutions and accuracies;
- Built on a data model that is either common or, at a minimum, able to be cross-walked;
- Built on open database architectures;
- Based on a consistent geodetic framework; and,
- Interoperable or at least publishable in industry standard spatial data formats.

Standards development will be complicated by the need to balance resource limitations, by establishing technical benchmarks that meet the greatest number of needs, not necessarily at the "lowest common denominator".

Acceptable minimum standards for a statewide system may be too rigorous and, thus, too costly for some small program participants. This may require that funding and other resources will have to be balanced and distributed across the State. While there is considerable justification for the notion that it is in the interest of the more populated

areas to support the less populated areas (e.g., homeland security and environmental protection), it is a difficult argument to make politically.

3. Programmatic Opportunities

There are several factual circumstances that represent opportunities upon which to build a statewide land information system.

a. Geographic Framework

The State is in a good position to take advantage of earlier investments in order to build a statewide land information system. Because the State participated in a cooperative arrangement with the U.S. Geological Survey and the Natural Resources Conservation Service, there are statewide digital orthophotos, based on the National Aerial Photography Program specifications. While those orthophotos may not be suitable for all high demand business purposes, the will be adequate for land information systems for many areas of the State. This digital product provides an excellent statewide base map.

In addition, there has been considerable investment in geodetic and survey control. There is a statewide geodetic reference framework, namely a High Accuracy Reference Network (HARN). The Nebraska HARN was built with transportation revenue through the Department of Roads. It offers more than 200 geodetic quality benchmarks. These HARN stations were established using global positioning system (GPS) survey methods and have been adjusted to provide a statewide network. HARN stations may be used by local surveyors, engineers, photogrammetrists, and others to support mapping, geodetic control densification, Public Land Survey System (PLSS) maintenance and updates, and other spatial referencing.

The State and local governments have done considerable maintenance on the PLSS. The State Surveyor's office estimates that more than 50% of the PLSS in the State has been recovered and re-monumented with geographic coordinates establish for each station. Other re-monumentation projects have been undertaken, although without coordinate values being established. These investments may leveraged by using GPS surveys to establish coordinates. Unfortunately, most of this survey work has occurred in the eastern half of the State, with some notable exceptions like Scottsbluff County.

b. Data Communications

There is a statewide data communications network that extends to every county in the State. This "AS400 Network" provides a baseline data communications network from which, at minimum, non-spatial land information may be transferred. This network has a mix of available bandwidths ranging from dedicated 56k connections to T1. In addition, there are other less pervasive networks available (e.g., University of Nebraska Extension, etc). The AS400 Network has generally been perceived as successful and provides some precedent for a statewide technology

c. Existing Systems

There have been a number of modernization efforts across the state. These system development exercises represent excellent examples of best practices and lessons learned. While most of these projects involved more populous areas, pilot projects and experiences in small communities have also been completed.

In addition, there is a level of precedence for automation of key land records systems. Presently, it is estimated that approximately 82 of the State's 93 counties have implemented computer-aided mass appraisal (CAMA) systems. There are really only two CAMA systems being used. The presence of these CAMA systems offers key information that may be included in a modern land information system. In addition, these systems offer a basic technology framework upon which a statewide system may be built.

4. Political Context

Considerable effort was given towards trying to understand the current political context. The political inquiries focused on: An assessment of the interest or demand for a land information program; where grass roots or other political support may be garnered; and what is the likelihood of political support in the legislature and with the administration.

a. Demand for a Land Information Program

The perception from stakeholder to stakeholder varied on of the level of demand for the need for a land information program. Some stakeholders indicated that there is local support for a program, but that it is not at the highest level of priority for some local officials.

In part, this variation was attributed to the multitude of interests across local governments ranging from departmental interests, to jurisdictional variation, to strong competing demands for limited governmental resources. In particular, the interests of counties and municipalities vary. Counties tend to be more focused on land records. Cities, on the other hand, are more concerned with infrastructure management and service delivery issues. Obviously, the interests of counties and municipalities (and the State for that matter) intersect in their needs for mapping and business applications. However, their interests diverge at a technical level. The challenge for a land information program will be how to maximize the benefits where city, county, regional, and state interests converge.

In circumstances where automation and modernization have been completed or are underway, concern was expressed about the potential diversion of resources to a statewide effort. Notwithstanding, while there is more tepid support for a statewide program in some quarters, virtually no stakeholder indicated that they believed that anyone would actively oppose a program.

Other stakeholders indicated their perception of a strong demand for a program. Obviously this demand was perceived to be with those jurisdictions that have yet to begin the modernization process. While demand for a program seemed highest from the more rural local governments, other, medium sized communities were also interested in varying forms of assistance.

Certainly, local government respondents to the land records modernization survey indicated a strong interest in varying forms of assistance that would be available through a land information program. In particular these local government survey respondents indicated a desire for:

- New forms of dedicated revenue and funding mechanisms;

- Education and technical assistance;
- Policies; and,
- Technical standards and guidelines.

Considerable concern was expressed by respondents in regard to the status of land records, addressing, emergency response, and conservation and environmental planning and protection.

The combination of these positions is that there is a demand for a land information program in the State. Much of what may be perceived as lukewarm support may be attributed to competing interests and the overall tight fiscal circumstances that the State finds itself in.

b. State Oversight

One point was clearly articulated in both the survey and in formal and informal interviews. There is limited interest in a program where there is strong State oversight and intervention. Clearly, local officials are interested in developing their own systems with assistance but not mandates from the State. In both interviews and from the local government survey, it is clear that there is very strong demand for education and technical assistance. The general perception seemed to understand the State's role in providing enabling legislation, coordination and program support, but not to have a heavy hand locally in its execution.

Notwithstanding this bit of skepticism, stakeholders, local officials, and others all understand and appreciate the States role in the development of a program. There was particular support for the premises of a land information program—namely to leverage public investments in systems and data to yield the maximum benefit for government and citizens across the State. It is also understood that State agencies may participate in and benefit from a program

c. Elected Officials Support

In interviews with two legislators, a couple of factors became evident. There was a general understanding on the part of the legislators interviewed about the issues and needs for land records modernization. Both legislators expressed generalized support for a program, but that was tempered with their perception of the strong competition for financial resources. Both legislators expressed an interest in further exploring the creation of program, including being willing to facilitate discussion and study.

The Governor has not yet indicated support for a land information program. Indications from the Governors Policy Research Office suggest that the Governor is aware of and supports the efforts being made as part of the Land Records Modernization Study. The Governor is also aware of and appreciates the issues driving this study. The Governor has focused on the management dimension of governance. He has tried to create an environment that would enhance efficiency and effectiveness at all levels of government in the State. It has been suggested, for example, that the policy of this administration has been to avoid the creation of stovepipe information systems. The Governors Policy Research Office has worked closely with this effort and has been facilitating further discussions.

d. Funding Mechanisms

There was considerable discussion about possible funding alternatives. All stakeholders were open to creative ways for providing program support. Generally, all stakeholders supported the notion of funding that is tied, like a user fee, in some way to mapping, modernization, and/or automation of records. It was understood that there are no perfect user fee mechanisms. Surrogates for a user fee include document recording feeds, real estate transfers fees (document stamps), and E-911 and wireless phone charges.

Many stakeholders indicated an interest in continuing efforts, beyond legislation, to seek other forms of funding as well. These other potential revenue sources include federal transportation funds, homeland security grants, EPA grants, etc. The general consensus is that the State will be more successful if it is vigilant in continuing to seek out other revenue sources to support a land information program.

C. Conclusion

Creating a land information program for the State of Nebraska will have many challenges and, potentially, many benefits. Generally, stakeholders have reported that there is a demand for such a program. These perceptions have been validated by the land records modernization survey. To be successful though, any program must meet local needs and broader regional and statewide needs. The State's role in facilitating this program is important. Just as important, the State must not micro-manage the program at the local level. While the challenges are many, so are the opportunities.